



## Missouri Department of Elementary and Secondary Education

— Making a positive difference through education and service —

August 16, 2006

To: School Administrators

From: Deborah S. Sutton  
Director of Instructional Technology

Subject: **Review of draft 2007-2011 Missouri Education Technology Strategic Plan**

Since spring 2005, the Department's Instructional Technology Section and SuccessLink staffs have been working with a group of nearly 100 Missouri educators and other stakeholders from across the state in developing the next five-year state education technology plan. Attached is a draft copy of the 2007-2011 Missouri Education Technology Strategic Plan's (METSP) goals, objectives, and major implementation strategies. **The Department is accepting comments on the August 2006 draft plan through September 18, 2006.**

Please feel free to share this letter and the attached plan draft with others in the districts as you deem appropriate. Note that the draft plan is also available as .pdf and Word documents on the Department website at: <http://dese.mo.gov/divimprove/instrtech>. Comments should be emailed to [instrtech@dese.mo.gov](mailto:instrtech@dese.mo.gov), with comments embedded in the email message or attach a copy of the Word document after using the track-changes feature of Word to insert your comments.

The Department uses the state plan to help identify and direct technology resources that promote and enhance teaching and learning across the state. The new plan builds on successes and weaknesses of the previous five-year plan. [Review the 2002 METSP and September 2005 Status Report at: <http://dese.mo.gov/divimprove/instrtech/techplan/index.htm>.] Like the previous plan, the 2007 METSP focuses on five major technology focus areas, that when addressed, will help districts graduate students prepared to thrive in the 21<sup>st</sup> Century. The five technology focus areas (TFA) are:

**S**tudent Learning

**T**eacher Preparation

**A**dministration, Data Management, Communications

**R**esource Distribution

**T**echnical Support

It is important to note that the state technology plan is intended to serve as a road map to assist districts in integrating technology in effective and efficient manners. While not a mandate, districts are encouraged to use the state plan to help guide and facilitate local technology planning, funding, implementation, and evaluation. The Department will track progress of the plan's goals and objectives through analyses of data collected via the Department's Core Data Collection System, including the Census of Technology (COT), the Missouri School

Improvement Program (MSIP), and participation in state and federal programs that advance teaching and learning through the use of technology. It is unlikely that all districts will be able to meet all goals by the same end dates; however, tracking and reporting state-level data helps the Department and districts gauge effectiveness of state and local planning efforts.

The state education plan is viewed as a living document that is reviewed and revised regularly. Department staff and planning committee members expressed commitment in disseminating effective practices related to the plan's goals and objectives. Thus, the 2007 plan will be used as a vehicle to encourage Missouri educators to share practices incorporated in their schools that promote effective and efficient uses of technology. These practices will be warehoused and posted on state technology plan websites hosted by the Department and SuccessLink.

Any Missouri educator or stakeholder is invited to review the August 2006 draft and submit comments to Instructional Technology by September 18, 2006. Readers are encouraged to consider the following questions when reviewing the draft plan's goals, objectives, and major implementation strategies:

Are the goals, objectives, and major implementation strategies clear and easy to understand? Are they measurable? Are they realistic and attainable? If implemented, would they result in positive and meaningful changes?

Are there programs, projects, or procedures that you know of (in your school or another school) that promote one or more of the objectives and should be noted as an effective practice that others might adopt or adapt?

After the comment period, planning committees will continue development of detailed action plans that will cross-reference desired actions and results to state plans and standards where appropriate, and indicate the end results desired, their begin and end dates, when and how results will be measured, key implementers, and estimated costs and funding sources. The intent is to have the plan finalized and reported to the State Board of Education by late fall or early winter.

If you have any questions, please contact Instructional Technology staff at 573-751-8247 or [instrtech@dese.mo.gov](mailto:instrtech@dese.mo.gov).



## 2007-2011 Missouri Education Technology Strategic Plan Draft – August 2006

### STUDENT LEARNING GOAL, OBJECTIVES, AND IMPLEMENTATION STRATEGIES

*While technology was embedded in the Show-Me Standards, the 2002 METSP adopted the National Educational Technology Standards for Students (NETS-S) because of their national scope and usage and, with the details they provide, they offer more guidance to districts in meeting state and federal goals related to technology integration and student technology literacy. The 2007 METSP objectives extend 2002 objectives and place more emphasis on 21<sup>st</sup> Century Skills development.*

**Goal 1.** All Missouri students will engage in rigorous instruction driven by technology-enriched curricula to realize high levels of academic achievement and performance that fosters life-long learning.

**Objective 1.** The State will adopt or adapt the NET\*S achievement rubric developed by the North Central Regional Educational Laboratory (NCREL) to promote and monitor student technology literacy.

#### Implementation Strategies

- a. State will adopt/adapt the NETS-S achievement rubric.
- b. State will adapt/adapt/develop model assessment tools to evaluate student literacy at 2<sup>nd</sup>, 5<sup>th</sup>, and 8<sup>th</sup> grade, and prior to graduation.
- c. State will incorporate technology integration into the model curriculum units.
- d. State will review technology integration through the use of the classroom observation template created for 4<sup>th</sup> Cycle MSIP.

**Objective 2.** Districts will use the NET-S achievement rubrics to promote and monitor student technology literacy.

#### Implementation Strategies

- a. Districts will adopt/adapt the state NETS-S achievement rubrics.
- b. Districts will adopt/adapt the state assessment tools to evaluate student literacy at 2<sup>nd</sup>, 5<sup>th</sup>, and 8<sup>th</sup> grade, and prior to graduation.
- c. Districts will analyze data from local assessments to monitor student progress and drive curricular changes.
- d. Districts will provide ongoing instruction in effective, responsible, and safe use of technology.
- e. Districts will continue to report the status of student literacy data via COT and in response to MSIP Standards 6.4 and 6.8 and related Advanced Questionnaire items.

**Objective 3.** Schools will implement effective instructional strategies to address student achievement and 21<sup>st</sup> Century Skills.

**Implementation Strategies**

- a. Schools will implement the NETS-S achievement rubrics and effective, responsible, and safe use of technology.
- b. Schools will support and expand hands-on and inquiry-based learning powered by technology.
- c. Schools will support and expand learning opportunities through technologies such as virtual education, assistive technology, and digital instructional resources.
- d. Schools will continue to report on student technology skills and usage via COT.

Student Learning Effective Practices: *(Please share a program, project, or practice in your district – or a district you know about – that addresses one or more of the Student Learning objectives. An example might include the use of SETDA Profiling Educational Technology Integration (PETI), LoTi Framework, or Engauge survey tools, locally-developed administrator walk-through observation forms, or other resources used to analyze technology integration and literacy and resulting changes in curriculum, instruction, assessment, or data management.)*

## **TEACHER PREPARATION**

### **GOAL, OBJECTIVES, AND IMPLEMENTATION STRATEGIES**

*The 2002 plan adopted the National Educational Technology Standards for Teachers (NETS-T) and Administrators (NETS-A) and based Teacher Preparation goals on the eMINTS Instructional Model – instructional strategies powered by technology that engage students in the excitement of learning and enrich teaching to dramatically improve student performance. The 2007 plan enhances objectives that continue to promote the NETS-T, the eMINTS instructional model, and 21<sup>st</sup> Century Skills and includes new objectives that address virtual learning, teacher preservice standards, partnering of professional development programs, and such.*

**Goal II.** All Missouri teachers will implement technology-enriched curricula, research-based instructional strategies, and effective integration of instructional technology systems to realize high levels of academic achievement.

**Objective 1.** The State will adopt/adopt the NETS-T and NETS-A achievement rubrics developed by NCREL to promote and monitor educator use of technology including technology literacy.

#### **Implementation Strategies**

- a. State will adopt the NETS-T and NETS-A achievement rubrics.
- b. State will adapt/adopt/develop model assessment tools to evaluate educator literacy.
- c. State will identify or secure adequate professional development funding and support. [See also: Goal III, Objective 1, Strategy f.; Goal IV, Objective 1, Strategy a.; and Goal V, Objective 1, Strategy a.]

**Objective 2.** Districts will use the NETS-T and NETS-A achievement rubrics to promote and monitor educator technology literacy.

#### **Implementation Strategies**

- a. Districts will adopt/adapt the NETS-T and NETS-A achievement rubrics.
- b. Districts will adopt/adapt the state assessment tools to evaluate educator literacy.
- c. Districts will analyze data from local assessments to monitor educator progress and drive professional development changes.
- d. Districts will provide ongoing professional development in effective, responsible, and safe use of technology.
- e. Districts will continue to report educator use of technology via COT and in response to MSIP Standards 6.4 and 6.8 and related Advanced Questionnaire items.

**Objective 3.** Schools will implement effective professional development strategies to address educator preparation, delivery of instruction, and 21<sup>st</sup> Century Skills.

#### **Implementation Strategies**

- a. Schools will implement NETS-T and NETS-A achievement rubrics and effective, responsible, and safe use of technology.
- b. Schools will support and expand implementation of hands-on and inquiry-based learning powered by technology.

- c. Schools will support and expand professional development opportunities through technologies such as virtual education, assistive technology, and digital instructional resources.
- d. Schools will continue to report on educator use of technology via COT.

**Objective 4.** The State and key stakeholders will use and support high quality professional development (in accordance with NCLB) that furthers 21<sup>st</sup> Century Literacy.

**Implementation Strategies**

- a. State will partner with the Department of Higher Education (DHE) in adopting/ adapting the NETS-T and NETS-A for state teacher education programs and accreditation standards.
- b. State partners will review and revise teacher and administrator certification and re-certification requirements based on NETS-T and NETS-A.
- c. State will partner with Missouri Regional Professional Development Centers (RPDCs) and other professional development organizations to embed NETS-T and NETS-A in professional development offerings.
- d. State will partner with RPDCs and others to support and expand professional development opportunities through technologies such as virtual education, assistive technology, and digital instructional resources.

Teacher Preparation Effective Practices: *(Please share a program, project, or practice in your district – or a district you know about – that addresses one or more of the Teacher Preparation objectives. An example might include use of eMINTS or Intel Teach to the Future professional development program to prepare teachers on appropriate and safe uses of education technologies to improve instruction and student performance and/or the use of SETDA Profiling Educational Technology Integration (PETI), Apple Classrooms of Tomorrow integration, or other framework surveys/tools, or other resources used to analyze instructional technology integration and literacy and resulting changes in instruction, assessment, or data management. )*

## **ADMINISTRATION, DATA MANAGEMENT, COMMUNICATIONS GOAL, OBJECTIVES, AND IMPLEMENTATION STRATEGIES**

*The 2002 plan addressed connectivity, networking, and district-wide software programs/systems. The 2007 plan enhances those objectives related to district planning, data management, and electronic communication systems, and includes new strategies for addressing data security, disaster recovery, Internet safety, and similar issues.*

**Goal III.** All Missouri districts will implement effective and efficient administrative, data management, and communication processes, through the use of technology, that support teaching and learning.

**Objective 1.** The State will disseminate the METSP to serve as a framework for developing comprehensive local technology plans.

### **Implementation Strategies**

- a. State will conduct face-to-face and broadcast electronic presentations on the implementation of the state technology plan.
- b. State will assist districts in developing local technology plans that align to METSP.
- c. State will solicit examples of effective practices that align with METSP goals and objectives.
- d. State will translate METSP into a rubric for state and E-rate approval of local technology plans.
- e. State will disseminate METSP, local technology plan information, and effective practices via the web, listservs, *Newsline*, etc.
- f. State will champion for adequate technology funding and support. [See also: Goal II, Objective 1, Strategy a; Goal IV, Objective 1, Strategy a.; and Goal V, Objective 1, Strategy a.]

**Objective 2.** Districts will develop and enhance administrative, data management, and communication systems powered by technology.

### **Implementation Strategies**

- a. Districts will monitor the efficiency and productivity of managerial and administrative tasks and implement technological processes as appropriate.
- b. Districts will incorporate appropriate technology tools to facilitate data and information collection, analysis, and reporting (data warehouse, school interoperability framework (SIF), proprietary and open-source systems, etc.).
- c. Districts will implement technology mechanisms that facilitate interactive communication (e.g., email, listservs, voice mail, distribution lists, and online surveys, etc.).

**Objective 3.** Districts will develop policy and procedures and support for effective use of technology.

### **Implementation Strategies**

- a. Districts will develop and maintain a budget which supports technology systems and use.
- b. Districts will develop policy and procedures supporting total cost of ownership (TCO) such as acquisition, maintenance/upkeep, security, connectivity/infrastructure, training, support, software, electrical service.

**Objective 4.** Districts will develop policy and procedures for responsible and safe use of technology.

**Implementation Strategies**

- a. Districts will develop and maintain policies and effective practices that address disaster recovery of district data.
- b. Districts will develop and implement policies and effective practices to ensure security of data (e.g., HIPPA, FERPA, etc.) across local-area and wide-area networks.
- c. Districts will develop and implement policies and effective practices to ensure security of hardware and software.
- d. Districts will develop and implement policies and effective practices to promote safe learning environments (e.g., use of Internet, virtual learning, electronic resources, etc.).

Administration, Data Management, Communication Effective Practices: *(Please share a program, project, or practice in your district – or a district you know about – that addresses one or more of the Administration, Data Management, Communications objectives. An example might include use of open source or SIF-compliant software in creating an effective database that facilitates district-wide data storage, analysis, and reporting. )*



## **RESOURCE DISTRIBUTION**

### **GOAL, OBJECTIVES, AND IMPLEMENTATION STRATEGIES**

*The 2002 plan addressed district, school, and classroom hardware and software standards and the use of technologies that support school administration and the teaching and learning process. The 2007 plan enhances those objectives, addressing equitable distribution of basic resources and capacity to incorporate emerging technologies*

**Goal IV.** All district personnel and students will have equitable access to technology resources that promote professional and academic performance.

**Objective 1.** The State and key stakeholders will partner to establish and support equitable resource standards.

#### **Implementation Strategies**

- a. State partners will identify, solicit, and secure technology funding for Missouri districts. [See also: Goal II, Objective 1, Strategy a; Goal III, Objective 1, Strategy f.; and Goal V, Objective 1, Strategy a.]
- b. State partners will identify and promote standards and benchmarks related to district, school, and classroom resources, infrastructure, and technical support.
- c. State partners will identify and promote technology-mediated courses and professional development programs.
- d. State partners will identify and promote effective practices that address diverse needs and interests and make the case for replication and support.

**Administration, Data Management, Communication Effective Practices:** *(Please share a program, project, or practice in your district – or a district you know about – that addresses the Resources Distribution objective and strategies. An example might include setting policy and implementing practices that allow teacher on-demand access to an array of education technology hardware, digital software, or programs that facilitate electronic assessment, immediate feedback, and differentiated instruction.)*

## **TECHNICAL SUPPORT**

### **GOAL, OBJECTIVES, AND IMPLEMENTATION STRATEGIES**

*The 2002 plan established basic technical support standards for districts and school buildings. The 2007 plan attempts to further promote and increase professional support knowledge and skills.*

**Goal V.** All district personnel and students will have adequate technical support to effectively use instructional and administrative technologies.

**Objective 1.** The State and key stakeholders will partner to establish and advance technical support standards.

#### **Implementation Strategies**

- a. State partners will identify, solicit, and secure technology funding to support districts obtaining sufficient, qualified person(s) to provide vision and leadership. [See also: Goal II, Objective 1, Strategy a; Goal III, Objective 1, Strategy f.; and Goal IV, Objective 1, Strategy a.]
- b. State partners will identify and promote technology support personnel standards, such as adopting/adapting NETS-A.
- c. State partners will review and establish necessary certification and MSIP standards for technology leaders, technical support personnel, and instructional technology specialists.

**Objective 2.** Districts will provide sufficient and qualified personnel to provide technical and instructional technology support.

#### **Implementation Strategies**

- a. Districts will provide personnel to ensure technology resources are readily available and functioning (e.g., hardware, software, non-computer technology, connectivity/networking, etc.).
- b. Districts will provide personnel to facilitate professional development and integration of technology across the curricula.
- c. Districts will provide overall leadership and proportional personnel based on the numbers and types of technology used by educators and students (e.g., one technical FTE/300 computer workstations; 80% of all technical problems fixed in three working days; one instructional FTE/50 classroom teachers, etc.).
- d. Districts will provide adequate professional development for technology personnel.

**Technical Support Effective Practices:** *(Please share a program, project, or practice in your district – or a district you know about – that addresses one or both of the Technical Support objectives. An example might include district policy, financial support, employment standards, and continuing professional development standards for designated technical support and instructional technology support employees or contract personnel.)*